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ABSTRACT

The purpose of the research reported in this paper was the development of a learner-centered instructional model for the teaching of reading and writing skills. Specifically, the 14 APA (American Psychological Association) learner-centered principles were used as the conceptual framework for the development of the model. There are seven iterative instructional events that comprise the instructional model: (1) establish rapport with the learner; (2) engage in informal conversation; (3) make the transition from informal conversation to structured dialogue; (4) promote awareness of correct spelling and proper sentence structure; (5) facilitate the construction of symbolic knowledge; (6) promote reflection; and (7) encourage the learner to assume higher agency in his or her learning. The model was developed using qualitative methods of research. Fifty elementary school children participated in the study; Bubble Dialogue, a HyperCard application, was used by the children to write stories over a period of 7 months. The paper contains two figures illustrating Bubble Dialogue in use and a diagram of the instructional model. This study promotes a learner-centered paradigm of instruction, one that is fundamentally different from traditional practices, as it places the learner in the center of the learning process and emphasizes meeting individual learning needs at different rates. (Author/DLS)

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An Instructional Model for Teaching Literacy: Implications for Instructional Theory

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Abstract

The purpose of this research was the development of a learner-centered instructional model for the teaching of reading and writing skills. Specifically, the 14 APA learner-centered principles have been used as the conceptual framework for the development of the model. There are seven iterative instructional events that comprise the instructional model, and they are: (1) Establish rapport with the learner; (2) Engage in informal conversation; (3) Make the transition from informal conversation to structured dialogue; (4) Promote awareness of correct spelling and proper sentence structure; (5) Facilitate the construction of symbolic knowledge; (6) Promote reflection; and (7) Encourage the learner to assume higher agency in his or her learning. The model has been developed using qualitative methods of research and 50 elementary school children participated in the study. Lastly, this study promotes a learner-centered paradigm of instruction, one that is fundamentally different from traditional practices, as it places the learner in the center of the learning process and emphasizes meeting individual learning needs at different rates.

ED 423 820

Introduction

There is no doubt that one of the most controversial issues in education for several decades has been the teaching of literacy (Noll, 1995). The debate has often centered on two different approaches of teaching reading and writing, namely the phonics approach and the whole language approach. Advocates of the phonics approach (e.g., Chall, 1967; 1989) argue that the whole language approach is not an effective method for teaching literacy, because it does not provide enough structure. On the other side of the debate, Goodman (1986), an advocate of the whole language approach, asserts that the phonics approach makes language learning difficult, because it does not take into consideration the needs and experiences of learners. No matter which side of the debate one belongs to, the fact that there are currently 14 million children in the United States who have failed to reach satisfactory levels of literacy cries for our immediate attention, fresh conceptions of literacy, and innovative ways to support its development.

One promising approach has been to focus on the importance of dialogue in literacy. Vygotsky (1962) has proposed that learning is a social process, and that children first learn "social speech," talk directed at others, in their attempt to communicate with their significant others. He argues that children's social speech is later turned inwards, and experienced as thought. Oakshott (1962) draws attention to the critical relationship between language, thought, and dialogue. He hypothesizes that humans have evolved a dialogic competence that is both private and public. This dialogue can take place in collaboration with other people in a social environment, or it can take place within ourselves in the form of an internal dialogue, often called reflective thought.

Tharp and Gallimore (1988) assert that literacy events should be experienced by learners as collaborative social activities with goals embedded in natural settings, and not as isolated and decontextualized events. Along the same line of reasoning, Bruffee (1984), who views dialogue as a vital element in composing thoughts, claims that collaborative writing groups provide the social context and the structure for such dialogue to take place. In arguing that all knowledge is constructed and that social interactions are critical in knowledge construction, he lays the theoretical groundwork for using dialogues and conversations among socially interacting people jointly negotiating text. Hall (1987) also agrees that learners develop acceptable literacy skills when they are involved in meaningful and collaborative activities.

As Downing (1979) asserts, however, literacy involves a mark-making and interpretive process that requires explicit awareness of the meta-linguistic aspects of language. Awareness of those aspects of language required for literacy does not develop spontaneously from spoken language; they are inaccessible to one's consciousness without the aid of a teacher, mentor, or collaborative community. Hence, what is required for literacy is a language awareness support structure, which incorporates the more conscious, deliberate, meta-linguistic processes that help make meaning in reading and writing.

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Bubble Dialogue, a computer software tool developed by the Language Development and Hypermedia Research Group (Cunningham et al., 1992), was designed to provide such a language awareness support structure for the acquisition of literacy. In this study, 50 elementary school children used Bubble Dialogue as a tool to help them improve their reading and writing skills. Before I proceed, I would like to first introduce Bubble Dialogue and discuss briefly the language awareness structure it supports.

Bubble Dialogue

Bubble Dialogue is a HyperCard application that combines elements of role play, comic strip creation, and reflexive dialogue analysis (The Language Development and Hypermedia Research Group, 1992). A master stack, called BubbleMaker (see Figure 1) has been written to create customized Bubble Dialogue stacks for later use. The scene in which the discussion is to take place is established by the participants. A graphic is then chosen, and the setting is described by writing a prologue. In each customized stack created by BubbleMaker, four icons, representing a speech bubble (public/social speech) and a think bubble (inner speech) per character, are presented alongside at least two characters on the screen. The comic genre is so well established in many cultures that even very young children, when presented with empty bubbles, feel compelled to speak for the characters playing out their roles.

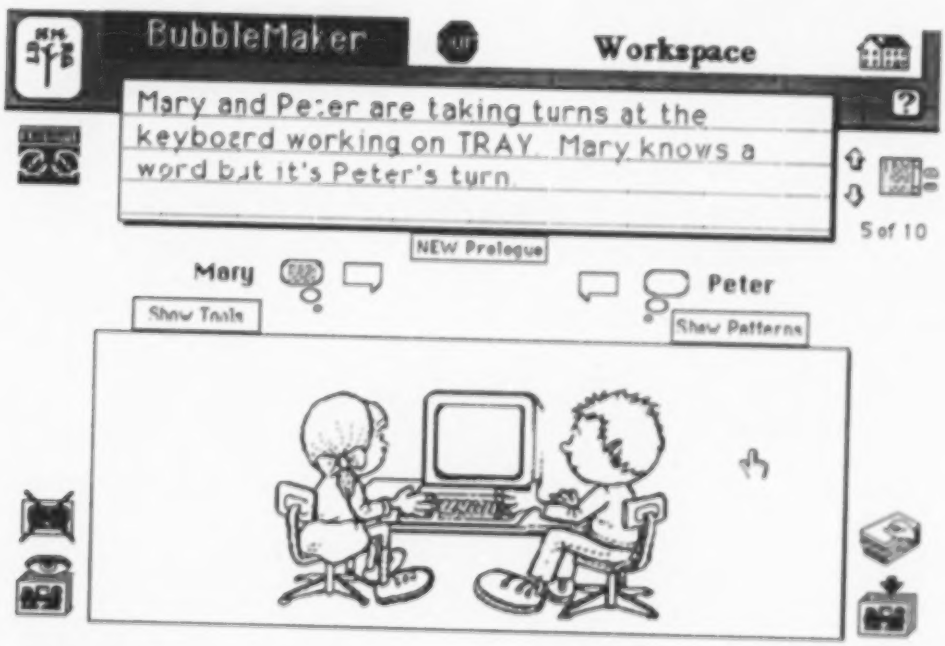

Figure 1. The BubbleMaker workspace

Bubble Dialogue can operate in two distinct modes; the creation mode and the review mode. In the creation mode (see Figure 2), one can only move forward to the next empty think or speech bubble. When in this generative mode, the course of action is transferred to the other character once a speech, and optionally, one think bubble have been used. This turn-taking protocol ensures that a user cannot have an extended conversation with himself or herself.

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Figure 2. The tool in creation mode

In contrast, in review mode (see Figure 3), the user can move forward or backward to add notes, edit existing bubbles, or even extend the dialogue. Most importantly, the review mode provides the user with an opportunity to reflect on the dialogue that took place, as well as the quality of his or her writing. One of the features that is activated while the application is in review mode is the notes field. This feature is powerful in a variety of ways. For example, when users review their dialogues they can use the notes field to add comments about "what's happening," or comments on the motives and feelings of the characters. Teachers and researchers may also use this feature to annotate the dialogues in any manner they see fit, such as commentary, reminders, and questions for the users to consider as they review their work.

All these features of Bubble Dialogue make up the language awareness support structure that is needed for learners to make the transition from conversation to written dialectic discourse. Think and speech bubbles enable the learner to function in both the interpersonal and intrapersonal levels (Vygotsky, 1962), as well as learn to take turns in a dialogue. In addition, the review mode allows learners to reflect and revise their dialogues appropriately.

Research Participants

Bubble Dialogue was used in collaboration with school children to write stories. Fifty elementary school children in a midwestern city of about 60,000 used Bubble Dialogue over a period of seven months. Thirty of those students were in second grade, five were in third grade, and fifteen were students from a multiage classroom for fourth, fifth, and sixth grade levels. Fifteen of the fifty students were reported as students with special needs, and five were identified as gifted. Thirty-eight of the students were Caucasian, ten were African-American, one Hispanic-American, and one American-Indian.

Bubble Dialogue sessions lasted for about 45 minutes to 60 minutes each. Younger children (i.e., first, second, and third graders) needed more time to get used to the computer tool and to type their responses. Each story the children wrote was saved in a file by Bubble Dialogue and was printed out at the end of each session.

I don't want help from her. I didn't want to work with her anyway.
Mary
Peter
Peter has a strong dislike to Mary,so he doesn't went her to give him the word
3 of 22

Figure 3. The tool in review mode

Theoretical Framework

The instructional model that is developed is based on learner-centered principles for learning and instruction. The 14 learner-centered psychological principles (LCPs) provide a good framework for curriculum design and instruction (American Psychological Association, 1995). The principles are divided into four categories: (1) Cognitive and metacognitive; (2) Motivational and affective; (3) Developmental and social; and (4) Individual differences.

In brief, the LCPs state that learning occurs more effectively when it is an intentional process of constructing meaning from experience and information. This view emphasizes that learners need the support and instructional guidance of a mentor, coach, or collaborative community to learn how to create meaningful representations of knowledge and engage in projects that will help them pursue their goals. In addition, learners need assistance in constructing and integrating new knowledge with existing knowledge, in part, by using a variety of cognitive strategies. Salient in the 14 LCPs is the development of the learner's thinking processes and strategies. Successful learners are the ones who are engaged in problem-solving and reflection, have developed reasoning skills, and know how to apply prior knowledge to new situations. But the LCPs also emphasize the importance of motivation. Curiosity, perceived relevance of the task to the learner's goals, and personal choice and control, for instance, are all factors that contribute to a learner's motivation. Learning is also influenced by the learner's developmental level, as well as by how he or she interacts in social environments when collaborating with others.

Instructional Model

I would like now to discuss the instructional model that is modeled after the learner-centered principles for learning and instruction Based on the design characteristics of Bubble Dialogue and the theoretical framework of LCPs, I developed the instructional model shown in Figure 4 below.

In accordance with the LCPs, learning and instruction were viewed as cognitive, metacognitive, developmental, and social processes. Instruction, therefore, took on many different dimensional forms but always within the framework of dialectic discourse.

The instructional process, shown in Figure 4 above, consisted of seven different phases.

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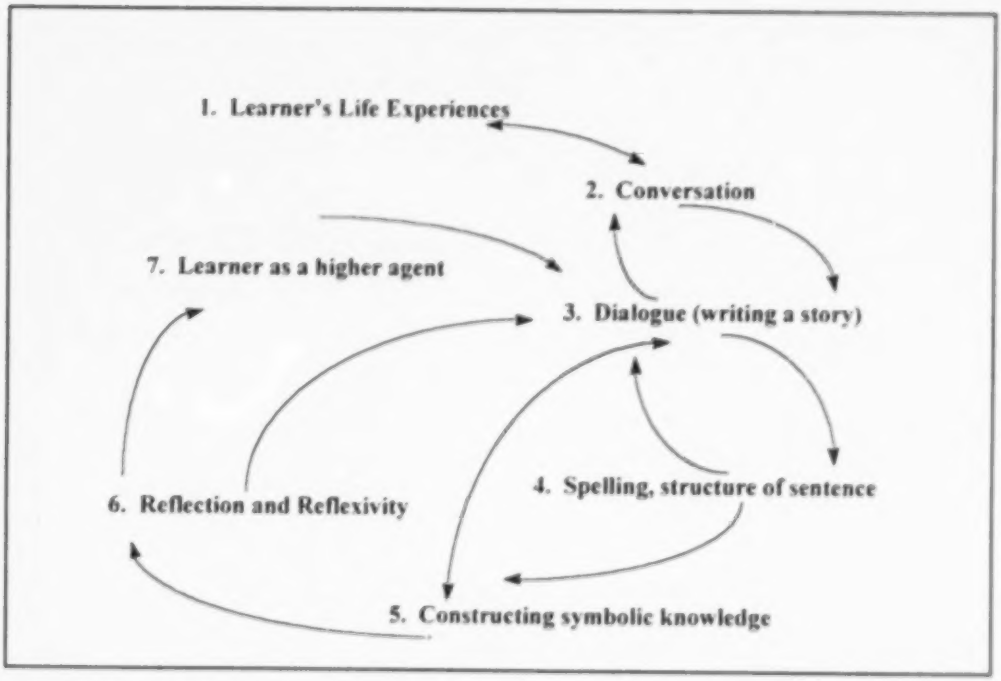
1. Learner's Life Experiences
2. Conversation
7. Learner as a higher agent
3. Dialogue (writing a story)
4. Spelling, structure of sentence
6. Reflection and Reflexivity
5. Constructing symbolic knowledge

Figure 4. The collaborative learner-centered instructional model

Phase I

First of all, the researcher established rapport with the students. The goal during this first stage was to get to know the students better and inform them of the purpose of the computer activity. Even though it was desired to make the instructional process purposive and intentional, the researcher also wanted the students to find the task relevant to their interests. As Short and Burke (1991) state, "whenever students are involved in experiences where they have choices, there is a greater likelihood that they will be able to make choices that allow them to connect with what they already know" (pg. 36). Therefore, students were asked to draw from their life experiences and select the topic they wanted to write a story about. Older students (in third, fourth, fifth, and sixth grade levels) easily referred to their family life or hobbies to select the topic they were interested in talking about, but when the younger second-graders were given the option to choose, they claimed that they did not know what they wanted to talk about. Therefore, this introductory phase lasted longer with second-graders, as they needed more help in selecting a topic that was of interest to them.

Phase II

After the researcher and the students established a topic, they engaged in purposive conversation to learn more about it. Though this phase did not last long, it was used as a bridge to shift from casual conversation to conscious dialogue. Initially, all children found it difficult to get familiar with the structure of dialectic discourse that Bubble Dialogue provided. The students had to be constantly reminded that they had to use the computer to type their responses in either a speech or a think bubble.

Phase III

Once the transition from conversation to dialogue was modeled, the researcher modeled using the speech and think bubbles for the students, and asked them if they knew the difference between the two. Since many students initially felt hesitant and unsure about the use of think bubbles, they avoided them. The researcher continued modeling their uses for the students, and noticed that after four or five speech bubbles, they tried at least one think bubble.

Phase IV

Once the students felt comfortable with Bubble Dialogue, the researcher asked some of them to read aloud what they were typing in the bubbles. The reason for this request was to increase their metacognitive awareness about the mechanics of their language use, since many of them were misspelling words and writing sentences that were not grammatically correct. Once they began reading aloud what they wrote, they became aware of the fact that what they wrote did not "sound" too well. Accordingly, they began asking questions about how to spell certain words, if they used punctuation correctly, and if their sentences were well-formed.

Postman (1995) states that "there are many ways to teach the young the connections between language and world-making" (pg. 84), and he argues that teachers make a major mistake by focusing students' language use on how to spell words correctly and use punctuation rules properly. Therefore, literacy becomes a game of trivia. As a result, during the fourth phase, the role of the researcher as the "teacher" became extremely difficult and challenging. As Sternberg and Horvath (1995) note, a good teacher is one that is insightful and one that holds a bag of different tools to use appropriately. Since not all students were at the same level of language development, the biggest challenge for the researcher was to diagnose when the time was right to make a student aware about the technical aspects of language. Some (10%) students were aware from the beginning about their language use by just watching the way the researcher wrote. More (60%) gradually became aware of their writing as the researcher was constantly asking them questions to think about their writing. The remaining students (30%) failed to discriminate between the researcher's writing and their writing.

Cunningham (1992) states that knowledge does not consist of a number of objects that learners acquire, instead knowledge is better thought of as knowing or as a process. In tandem with this notion, literacy was viewed as a process of how learners come to mature thought and reason about abstract concepts (Bruner, 1966) and world-views (Postman, 1995). At the same time, it was recognized that it was important to learn how to write correctly. The strategy for dealing effectively with a number of different zones of proximal development (Vygotsky, 1962), therefore, was to first assess the readiness of students for new learning, and then, through a process of appropriation (Rogoff, 1990), introduce them to grammatical and punctuation rules by using language to talk about language. Therefore, not all children entered the fourth phase at the same pace. For those students (10%) who were aware about their language use from the beginning, the instructional process shown in Figure 4 above was systematically used in a linear fashion. In contrast, students who gradually became aware of their writing (60%), were guided from phase three to five and returned to four at a later time. There were two reasons for this tactic; (1) the researcher wanted the students to question by themselves the quality of their writing, and ask for help when they felt they needed it, and (2) the researcher did not want students to think that the only goal of the activity was to learn punctuation and grammatical rules. The rest of them (30%) were also guided from phase three to five and returned to four when the researcher felt that it was appropriate to introduce language mechanics.

Phase V

During the fifth phase, the goal was to help children develop their cognitive skills by asking them questions about the topic they selected. Initially, the researcher's questions were simple and required them to recall certain facts. Gradually, she shifted to questions seeking their personal experiences to reason and make inferences about the topic. For example, if the topic was friends, she asked questions such as: "Why do you like Tim as a friend?", "What qualities should a friend have?", "Are friends important?", "What do you do to be a good friend to somebody?". The goal was to activate their belief system about friendship through a process of inductive and deductive questioning. When the question was one that they had not encountered before, the researcher helped them to build a context within which the question could be answered meaningfully.

This last process is known as abduction (Cunningham 1992; Shank, 1987). The instructional strategy used for fostering abduction was to present students with a perspective different than their own; most of the time this was the researcher's own perspective. Therefore, students came to know how their knowledge templates and belief system were situated in relation to somebody else's belief system, while enhancing theirs as needed.

Phase VI

The sixth phase of reflection and reflexivity[1] was also of particular interest. Promoting reflection and reflexivity was an instructional strategy that was used primarily to help students develop metacognitive and higher-order thinking skills. The terms reflection and reflexivity are defined as "reflection of our reflections, thinking about our thinking process, knowing how we know" (Cunningham, 1992, p.187). The researcher's goal was to encourage students to think about the dialectic discourse reported in speech bubbles, analyze the arguments presented, synthesize all that was said so far, edit and revise appropriately, and decide how to respond next.

The findings indicate that students found it either difficult or irrelevant to use think bubbles as they made limited use of them. Nonetheless, when they did employ them, they used them to evaluate their current state of knowledge and say "I don't know, why is she asking me that question?", or express a concern they had about what the other person had said. When the researcher asked students why they were not using think bubbles as much as intended, they responded that they did not have to think about what to say, they already knew. However, as it was observed, students stopped and thought on numerous occasions about their answer without using a think bubble. Therefore, it seems that students either felt that it was too much work to type in their thoughts, or they did not see the connection between speech and think bubbles and how they could use both to shape their internal and external dialogue. It is the researcher's belief that a certain amount of practice with Bubble Dialogue is needed for a student to make the connection between think and speech bubbles. It was also expected that the notes field feature of Bubble Dialogue would provide an appropriate opportunity for reflexivity to take place, but students also made limited use of this feature. Here, again, it is proposed that with increased use of Bubble Dialogue, reflexive use of the notes field and other features will increase.

Phase VII

In all six stages of the instructional process used here, the "teacher" provided scaffolding while the student was constructing a set of negotiated beliefs. But even in this prevailing teaching model it was the teacher who asked questions, directed inquiry, and provided direction. As a result, the learners were dependent on the teacher's assessment of what constitutes knowledge, because the teacher was the one who was in control of movements within the zone of proximal development (ZPD). To help them grow out of this dependency, the researcher tried another activity using Bubble Dialogue which encouraged learners to assume higher levels of agency in their learning process by asking the questions, thus directing the dialogue. This movement out of dependency is really a question of ZPD control. Therefore, in attempting to shift control of the ZPD from the teacher's control to mutual control, the researcher hoped to balance the learning process. Previous research (e.g., Brown & Palinscar, 1989; Palinscar, 1986; Scardamalia & Bereiter, 1985) has shown that such a shift in power and control can be achieved only in learning environments that support the dialectic process, wherein learners with the appropriate scaffolding take over the asking of questions, and, thereby, direct their own inquiry. Bubble Dialogue proved to be an effective vehicle for supporting the development of such student self agency. Student opportunities for self agency are evident in the analyses of this study's dialectic discourse.

Implications for Instructional Theory

I would like now to discuss the implications of this research study for instructional theory and practice. Reigeluth (in press) advocates a new paradigm of instructional theory, a learner-focused paradigm as he calls it. The term instructional theory here is used the same way as Reigeluth uses it, that is instructional theory is a design theory that offers guidance on how to facilitate people's learning. Traditionally, instructional practices emphasized the fulfillment of learning goals, always pre-determined by the teacher, at specific rates. In other words, all learners were expected to reach the same learning goals at the same amount of time. Therefore, teaching has been viewed as a mechanical process of disseminating information to learners; a one-way interaction originating from the teacher to a group of learners.

What really the findings of this study show is that teaching and learning cannot be viewed as one-way interactions, but instead as collaborative processes situated in real, authentic, and social contexts in which the goal is to meet each learner's individual needs. As it was discussed earlier, not all learners in this study were able to complete all instructional events at the same time. As it was indicated, instructional time varied from 45 to 60 minutes. Therefore, instructional theory should be adaptive in nature. What I mean by adaptive is (1) to be able to

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[1] Cunningham (1992) differentiates reflexivity from reflection, but in this paper there is no distinction between the two.

customize instruction accordingly to adhere to the needs of each learner, and (2) to allow learners to attain competencies at different rates.

Another finding from this research indicates that learners should be encouraged to assume higher levels of agency in their learning. Traditionally, the teacher has been the primary agent that controlled the zone of proximal development of each learner by dictating what needs to be learned, when, and in what sequence. The role of the teacher in this new paradigm of instructional design theory is still of paramount importance, but different. In this study, the teacher and the learner worked together to design an instructional episode with Bubble Dialogue (to remind the reader, the first event in the model is the establishment of rapport with the student in order to decide what story the student wants to write using Bubble Dialogue). It is important to have shared control in this learner-focused paradigm. The student should be asked to make certain decisions, thus allowing him or her to direct the learning process in a way that is relevant and motivating to him or her, not relevant or motivating to the teacher.

Lastly, I would like to stress the importance of designing instruction that is situated in a real activity that makes sense to the learner. Within the context of authentic activities learning new information becomes meaningful and relevant. Therefore, knowledge does not remain inert (Whitehead, 1957), instead it becomes usable. In this research study, learners learned about spelling and how to construct well-formed sentences within the context of writing a story as a collaborative activity between them and the teacher. In other words, the teaching of literacy was not approached as an act of disseminating decontextualized knowledge to the learners. When the teachers of the school children read the stories the children wrote, they were amazed by how different the children's written speech appeared from the one in their journals. Specifically, they noticed that in general students wrote more than what they usually wrote in their journals, formed better sentences, and made less spelling mistakes.

Conclusion

In this paper I discussed the development of a learner-centered instructional model for the teaching of literacy. The instructional model is based on the theoretical framework of the 14 APA learner-centered principles for learning and instruction, and it consists of seven distinct instructional phases or events. They are: (1) Establishment of rapport with learners; (2) Engagement in informal conversation; (3) Transition from informal conversation to dialogue; (4) Awareness of spelling and sentence structure; (5) Construction of symbolic knowledge; (6) Reflection; and (7) Promotion of learners as higher agents in the learning process. I then discussed how this instructional model calls for a new paradigm of instructional theory; one that places the learner in the center of the learning process, and one that breaks away from the notion that learning requirements should be fulfilled by all learners at the same time. Finally, I emphasized the importance of designing instruction that is relevant and meaningful to learners.

Bibliography

American Psychological Association. (1995). *Learner-centered psychological principles: A framework for school redesign and reform.* Washington, DC: APA.

Brown, A. L., & Palinscar, A. S. (1989). Guided, cooperative learning, and individual knowledge acquisition. In L.B Resnick (Ed.), *Knowing, learning, and instruction. Essays in honor of Robert Glaser* (pp. 393-451). Hillsdale, NJ: Erlbaum.

Bruffee, K. A. (1984). Collaborative learning and the conversation of mankind. *College English,* 53, 452-466.

Bruner, J. S. (1966). *Toward a theory of instruction.* Cambridge, MA: Harvard University Press.

Chall, J. (1967). *Learning to read: The great debate.* New York, NY: McGraw-Hill.

Chall, J. (1989). Learning to read: The great debate 20 years later. A response to debunking the great phonics myth. *Phi Delta Kappan* 70, 521-538.

Cunningham, D. J. (1992). Beyond educational psychology: Steps toward an educational semiotic. *Educational Psychology Review,* 4, 165-194.

Cunningham, D. J., McMahon, H., & O'Neill, W. (1992). Bubble Dialogue: A new tool for instruction and assessment. *Educational Technology Research and Development,* 40(2), 59-67.

Downing, M. (1979). *Reading and reasoning.* London: Chambers.

Goodman, K. (1986). *What's whole in whole language.* NH: Heinemann Educational Books.

Hall, N. (1987). *The emergence of literacy*. London: Hodder and Stoughton.Language Development and Hypermedia Group. (1992). Bubble Dialogue: A new tool for instruction and assessment. *Educational Technology Research & Development*, 40(2), 59-67.

Noll, J. W. (1995). *Taking sides: Clashing views on controversial educational issues, 6th ed.* CO: The Dushkin Publishing Group, Inc.

Oakshott, M. (1962). The voice of poetry and the conversations of mankind. *Rationalism in politics, 196-247*. NY: Basic.

Palinscar, A. S. (1986). The role of dialogue in providing scaffolded instruction. *Educational Psychologist*, 21, 73-98.

Postman, N. (1995). *The end of education: Redefining the value of school*. NY: Vintage Books.

Reigeluth, C. M., (Ed.) (in press). *Instructional-Design Theories and Models, Volume II*. NJ: Lawrence Erlbaum.

Rogoff, B. (1990). *Apprenticeship in learning*. NY: Oxford University Press.

Scardamalia, M., & Bereiter, C. (1985). Development of dialectic processes in composition. In D. R Olson, N. Torrance, & A. Hildyard (Eds.), *Literacy, language and learning. The nature and consequences of reading and writing* (pp.307-329). NY: Cambridge University Press.

Shank, G. (1987). Abductive strategies in educational research. *American Journal of Semiotics*, 5, 275-290.

Short, K. G., & Burke, C. (1991). *Creating curriculum: Teachers and students as a community of learners*. Portsmouth, NH: Heinemann.

Sternberg, R. J., & Horvath, J. A. (1995). A Prototype view of expert teaching. *Educational Researcher*, 9-17.

Tharp, R. G., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning, and schooling in social context*. NY: Cambridge University Press.

Vygotsky, L. (1962). *Thought and language*. Cambridge: MIT.

Whitehead, A. N. (1957). *The aims of education*. NY: Macmillan.